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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
WEISKOPF, MARIE	

ART UNIT	PAPER NUMBER
3664	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/786,642	STROH, DAVID J.	
	Examiner	Art Unit	
	Marie A. Weiskopf	3664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 August 2007*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

KHOI H. TRAN
SUPERVISORY PATENT EXAMINER

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims1-10 and 13-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fliearman et al (US 6,067,495) in view of Nada (US 2001/0029414)

As per claims 1 and 13, Fliearman discloses a torque request generation system (col. 3, lines 29-35) for use with a coordinated torque control system (col. 3, lines 41-42) of a vehicle (10), comprising: an input receiving a vehicle speed and an axle torque command (col. 1, lines 48-56); a datastore (col. 3, lines 43-56) recording a three-dimensional torque surface (26) defined by a coordinate system having a first axis related to the torque command, a second axis related to the speed, and a third axis related to an axle torque request (Fig. 2); and a torque request generation module (26) accessing said datastore and generating a torque request based on a correlation between the torque command and the speed respective of the three-dimensional torque surface (col. 5, lines 40-42). Fliearman fails to disclose the torque command being a axle torque command and the speed being a vehicle speed, however, Nada discloses plotting axle torque command versus a vehicle speed (Fig. 13, paragraph 118) which would have been obvious to one having ordinary skill in the art at the time of the

invention to use the same three-dimensional torque surface taught by Fliearman with the axle torque command and vehicle speed.

As per claims 2 and 14, Fliearman discloses a datastore (col. 3, lines 43-45) that includes a normalization function respective of at least one of vehicle speed and axle torque command (col. 5, lines 37-39) and adapted to reference the three dimensional torque surface (26) via a nominal maximum axle torque curve residing in a plane formed by the second and third axes (col. 5, lines 40-42), thereby allowing dynamic, online adjustment of a creep speed threshold (col. 5, lines 42-45). Although Fliearman does not explicitly use the terminology creep speed threshold, figure 2 of patent 6,067,495 inherently discloses the same limitations found in claims 2 and 14. Stroh's definition of creep speed threshold necessitates that Fliearman's three-dimensional representation in figure 2 has a creep speed threshold.

As per claim 3, Fliearman discloses wherein the creep speed threshold is dynamically determined as a function of idle set speed, such that the creep speed threshold changes as the idle set speed changes (col. 5, lines 36-48). Although Fliearman does not explicitly use the terminology creep speed threshold, figure 2 of patent 6,067,495 inherently discloses the same limitations found in claim 3. Stroh's definition of creep speed threshold necessitates that Fliearman's three-dimensional representation in figure 2 has a creep speed threshold that is dynamically determined as a function of idle set speed, such that the creep speed threshold changes as the idle set speed changes.

As per claims 4 and 15, Fliearman discloses further comprising a nominal maximum torque adjustment module adjusting the nominal maximum axle torque based on the axle torque command and a fraction of maximum torque available due to ambient conditions relating to at least one of temperature and altitude (col. 4, lines 28-31). Fliearman explicitly discloses temperature (col. 4, lines 13-17) and inherently discloses altitude by disclosing air density (col. 4, lines 28-31) which necessitates altitude as evidenced by the calculation of air density below.

The air density calculator calculates air density (kg/m^3) as a function of altitude (elevation) *Z* (m a.s.l.) and mean air temperature at the same altitude ("The WasP air density calculator" available from http://www.risoe.dk/vea/projects/nimo/WasPHelp/AboutAirDensityCalculator.htm).

As per claims 5 and 16, Fliearman discloses further comprising an ambient compensation module adapted to provide varying degrees of ambient compensation, wherein effects of altitude and temperature in maximum torque output are employed to provide at least one of partial compensation, no compensation, and full compensation of these effects (col. 4, lines 28-31).

As per claims 6 and 17, Fliearman discloses a torque request generation module compares the vehicle speed to a creep speed threshold of the three-dimensional torque surface, and selectively determines whether to calculate a coast down region torque request versus a creep region torque request based on whether the vehicle speed exceeds the creep speed threshold (col. 5, lines 40-42).

As per claims 7 and 18, Fliearman discloses a torque request generation module normalizes the pedal command based on the pedal break point, adjusts the vehicle speed based on the creep speed threshold, computes a normalized positive torque based on a normalized pedal command and an adjusted vehicle speed, and multiplies an adjusted nominal maximum axle torque by the normalized positive torque, thereby producing the positive coast down region torque request (col. 5, lines 40-42).

As per claims 8 and 19, Fliearman inherently discloses in Figure 2 a torque request generation module normalizes the pedal command based on the pedal break point, adjusts the vehicle speed based on the creep speed threshold, computes a normalized positive torque based on a normalized pedal command and an adjusted vehicle speed, and multiplies an adjusted nominal maximum axle torque by the normalized positive torque, thereby producing the positive coast down region torque request.

As per claims 9 and 20, Fliearman discloses a torque request generation module normalizes the pedal command based on the pedal break point, multiplies a normalized pedal command by a negative real-time coast down torque, thereby producing a delta torque based on the real-time coast down torque, and adds a positive real-time coast down torque to the delta torque, thereby producing the negative coast down torque request (col. 5, lines 36-48).

As per claims 10 and 21, Fliearman discloses a torque request generation module normalizes the vehicle speed based on the creep speed threshold, computes a normalized creep region torque based on a normalized vehicle speed and the pedal

command, subtracts a real-time coast down torque from an adjusted nominal maximum axle torque, thereby producing an axle torque range, and multiplies the normalized creep torque by the axle torque range, thereby producing a de-normalized creep region torque (col. 5, lines 36-48).

3. Claims 11-12 and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fliearman et al. (6,067,495), in view of Nada (US 2001/0029414) and further in view of Bellinger (5,738,606).

Fliearman and Nada disclose all the claimed elements as mentioned in claims 1 and 13. Fliearman and Nada fail to disclose a torque request elevation module that compares the pedal command to a predetermined threshold, and elevates the torque request above a nominal maximum achievable torque as a function of an amount by which the pedal command exceeds the predetermined threshold relative to an upper range of pedal command; wherein an upper range of elevation accounts for statistical variability between vehicle engine capabilities relating to maximum achievable torque.

Bellinger in the same field of invention discloses a torque request elevation module that compares the pedal command to a predetermined threshold, and elevates the torque request above a nominal maximum achievable torque as a function of an amount by which the pedal command exceeds the predetermined threshold relative to an upper range of pedal command (col. 13, lines 46-64); wherein an upper range of elevation accounts for statistical variability between vehicle engine capabilities relating to maximum achievable torque (col. 1, lines 46-55).

From this teaching of Bellinger, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the torque request generation system of Fliearman to include a torque request elevation module that compares the pedal command to a predetermined threshold, and elevates the torque request above a nominal maximum achievable torque as a function of an amount by which the pedal command exceeds the predetermined threshold relative to an upper range of pedal command; wherein an upper range of elevation accounts for statistical variability between vehicle engine capabilities relating to maximum achievable torque as taught by Bellinger, in order to regulate the output torque of an engine (col. 2, lines 41-44).

Response to Arguments

4. Applicant's arguments, see pages 10-13, filed 8/21/07, with respect to the rejection(s) of claim(s) 1 under 102(b) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of newly found prior art. Examiner agrees that Fliearman et al teaches a turbine torque with turbine speed, however, Nada teaches using axle torque with vehicle speed, which can be plotted and used in the same way.

5. Applicant's arguments filed 8/21/07 in regard to claim 2 have been fully considered but they are not persuasive. As discussed in the rejection, although Fliearman and Nada don't specifically discuss creep, with the definition given in the

specification, Fliearman's three-dimensional representation in Figure 2 has a creep speed threshold.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marie A. Weiskopf whose telephone number is (571) 272-6288. The examiner can normally be reached on Monday-Thursday between 7:00 AM and 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Khoi Tran can be reached on (571) 272-6919. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

MW

KHOI H. TRAN
SUPERVISORY PATENT EXAMINER